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A-S

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/046,007 03/23/98 HAN

C HT98-002

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IM62/1215

EXAMINER

AHMED, S

ART UNIT

PAPER NUMBER

1746

DATE MAILED:

12/15/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/046,007

Applicant(s)
HAN et al.

Examiner
Shamim Ahmed

Group Art Unit
1746



☒ Responsive to communication(s) filed on Oct 4, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 21-28 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 21-28 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☒ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 21-28 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 21-28 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 and 5-21 of co-pending Application No. 09/046,008 (Attorney Docket No. HT-96-010C) in view of Sato et al (USP 5,992,004) and Choukh et al. (USP 5,753,131). The co-pending application ' 008 discloses all the limitation except an additional antiferromagnetic or hard transverse bias layer contacting a surface of a soft adjacent layer (SAL).

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However, Sato et al disclose a thin-film magnetic head, in which two magnetic layers (21 and 23) made out of Ni-Fe alloy are separated by a non-magnetic layer and an antiferromagnetic layer (24) of Fe-Mn alloy is contacting a surface of a SOL of Ni-Fe, wherein, the antiferromagnetic (AFM) layer serves as a bias layer (see, abstract, col. 13, line 42- col.14, line 8 and figure 9).

Sato et al fail to teach that the magnetic layers are separated by a dielectric layer. However, Choukh teaches that magnetoresistive (MR) layer and SAL layer of same type of material are separated by a non-magnetic spacer layer such as dielectric layer (col.3, lines 22-32 and figure 4).

Therefore, it would have been obvious to one having ordinary skill in the art to combine the teaching of co-pending application' 008 and Choukh for exhibiting excellent magnetic detection characteristics as taught by Sato et al and incorporation of a dielectric layer as a non-magnetic spacer layer as taught by Choukh.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 21-28 provisionally rejected under 35 U.S.C. 103(a) as being obvious over co-pending Application No. 09/046,008 which has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the co-pending application, it would constitute prior art under 35 U.S.C. 102(e) if patented. This provisional rejection under 35 U.S.C. 103(a) is based upon a presumption of future patenting of the conflicting application in view of Sato et al (USP 5,992,004) and Choukh et al. (USP 5,753,131). The co-pending application ' 008 discloses all the limitation except an additional antiferromagnetic or hard transverse bias layer contacting a surface of a soft adjacent layer (SAL).

However, Sato et al and Choukh et al disclose above in paragraph No. 3 is repeated herein.

Therefore, it would have been obvious to one having ordinary skill in the art to combine the teaching of co-pending application' 008 and Choukh for exhibiting excellent magnetic detection characteristics as taught by Sato et al and incorporation of a dielectric layer as a non-magnetic spacer layer as taught by Choukh.

This provisional rejection might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the co-pending application was derived from the inventor of this application and is thus not the invention "by another," or by a showing of a date of invention for the instant application prior to the effective U.S. filing date of the co-pending application under 37 CFR 1.131.

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6. Claims 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choukh et al in view of Sato et al.

Choukh teaches a similar method for making a magnetoresistive device, where, the magnetoresistive (MR) layer is separated from the soft adjacent layer (SAL) by a non-magnetic layer, which is formed of dielectric material, such as alumina (Al_2O_3) [col.3, line 22-32 and figure 4).

Choukh also teaches that the photoresist pattern is done by a lift-off method(which is well known in the art) and ion beam and sputtering etch methods are used as etching method (col.3, line 32-63).

Choukh et al fail to teach or suggest incorporation of an additional antiferromagnetic or hard transverse bias layer contacting a surface of a soft adjacent layer (SAL).

However, Sato et al disclose a thin-film magnetic head, in which two magnetic layers (21 and 23) made out of Ni-Fe alloy are separated by a non-magnetic layer and an antiferromagnetic layer (24) of Fe-Mn alloy is contacting a surface of a SOL of Ni-Fe, wherein, the antiferromagnetic (AFM) layer serves as a bias layer (see, abstract, col. 13, line 42- col.14, line 8 and figure 9).

Sato et al fail to teach that the magnetic layers are separated by a dielectric layer. However, Choukh teaches that magnetoresistive (MR) layer and SAL layer of same type of material are separated by a non-magnetic spacer layer such as dielectric layer (col.3, lines 22-32 and figure 4).

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Therefore, it would have been obvious to one having ordinary skill in the art to combine the teaching of Sato et al into the method of Choukh et al for exhibiting excellent magnetic detection characteristics as taught by Sato et al.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929.

SA

December 6, 1999



RANDY GULAKOWSKI
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